

## Title (en)

Optical amplifier for wide band raman amplification of wavelength division multiplexed (WDM) signal lights

## Title (de)

Optischer Verstärker für breitbandige optische Ramanverstärkung eines wellenlängenmultiplexierten Signallichts

## Title (fr)

Amplificateur optique d'amplification optique Raman à large bande pour signal lumineux à multiplexage en longueurs d'ondes

## Publication

**EP 1187276 A3 20050713 (EN)**

## Application

**EP 01119758 A 20010828**

## Priority

JP 2000262080 A 20000831

## Abstract (en)

[origin: EP1187276A2] A Raman amplifier providing a wideband gain for use in a wavelength division multiplexing (WDM) optical communication system. In one embodiment, a first optical amplifier Raman amplifies a wavelength division multiplexed signal light in both a first wavelength band and a second wavelength band in accordance with a plurality of excitation lights provided to the first optical amplifier, the first and second wavelength bands being different from each other. A divider divides the amplified signal light into first and second lights in the first and second wavelength bands, respectively. A second optical amplifier amplifies the first light and has a gain band in the first wavelength band. The third optical amplifier amplifies the second light and has a gain in the second wavelength band. In various embodiments, a gain equalizer and/or an optical isolator is used in combination with the first optical amplifier providing the Raman amplification. A controller is also provided to control the excitation lights provided to the first optical amplifier to achieve specific effects. <IMAGE>

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## IPC 8 full level

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## Citation (search report)

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- [X] US 5675432 A 19971007 - KOSAKA JUNYA [JP]
- [Y] NIELSEN T N ET AL: "3.28-TB/S (82X40GB/S) TRANSMISSION OVER 3X100 KM NONZERO-DISPERSION FIBER USING DUAL C- AND L-BAND HYBRID RAMAN/ERBIUM-DOPED INLINE AMPLIFIERS", OPTICAL FIBER COMMUNICATION CONFERENCE. (OFC). TECHNICAL DIGEST POSTCONFERENCE EDITION. BALTIMORE, MD, MARCH 7 - 10, 2000, NEW YORK, NY : IEEE, US, vol. VOL. 4 OF 4, 7 March 2000 (2000-03-07), pages 236 - 238, XP001036110, ISBN: 0-7803-5952-6
- [A] YAMADA M ET AL: "Broadband and gain-flattened amplifier composed of a 1.55 µm-band and a 1.58 µm-band Er<E6>3+</E6>-doped fibre amplifier in a parallel configuration", ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 33, no. 8, 10 April 1997 (1997-04-10), pages 710 - 711, XP006007322, ISSN: 0013-5194

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EP1276256A3; DE10336240B4; US6927896B2; US7057800B2; WO2004031847A1; WO2021137810A1; EP2372934B1

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## DOCDB simple family (application)

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